

FIG. 1

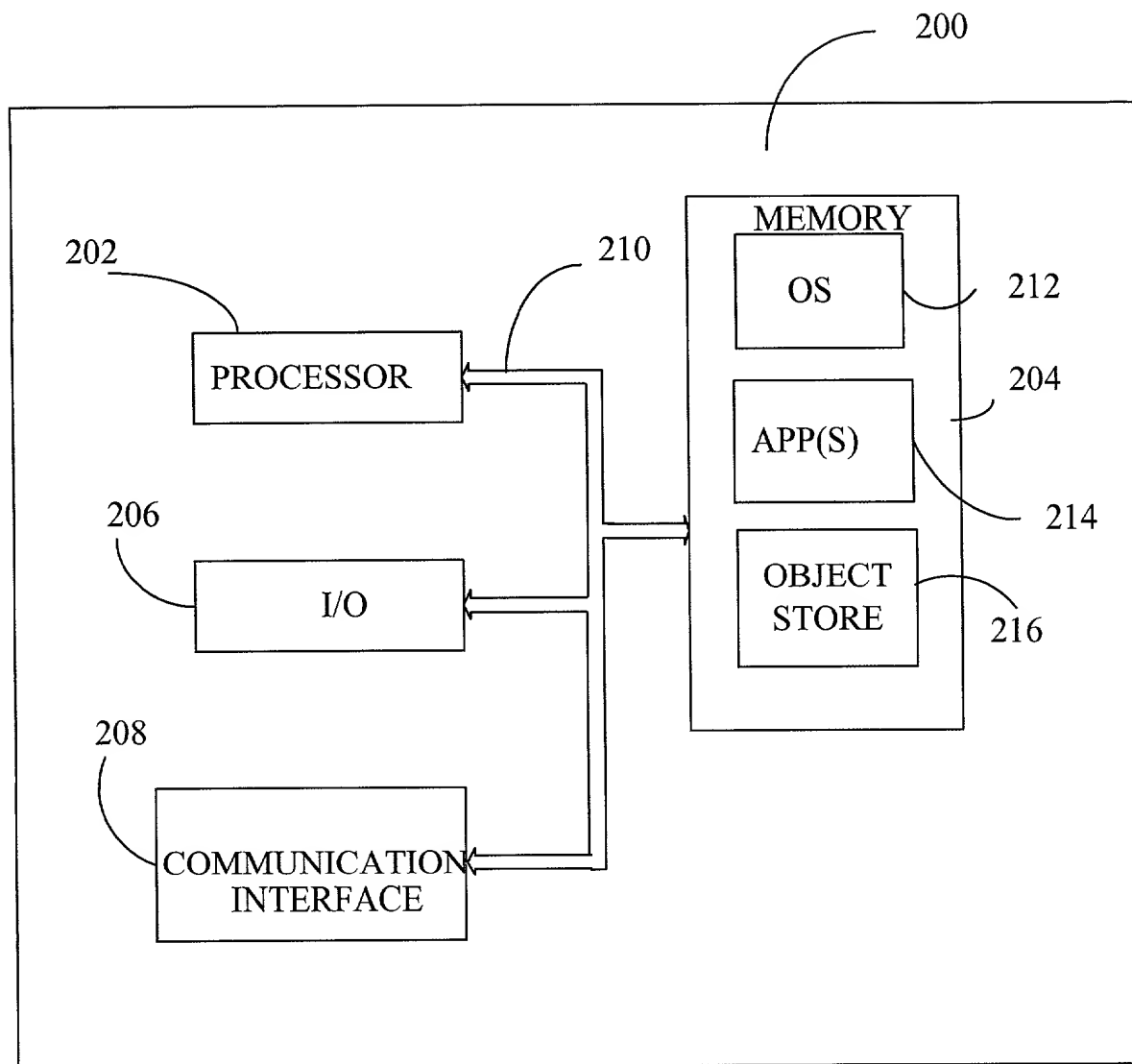


FIG. 2

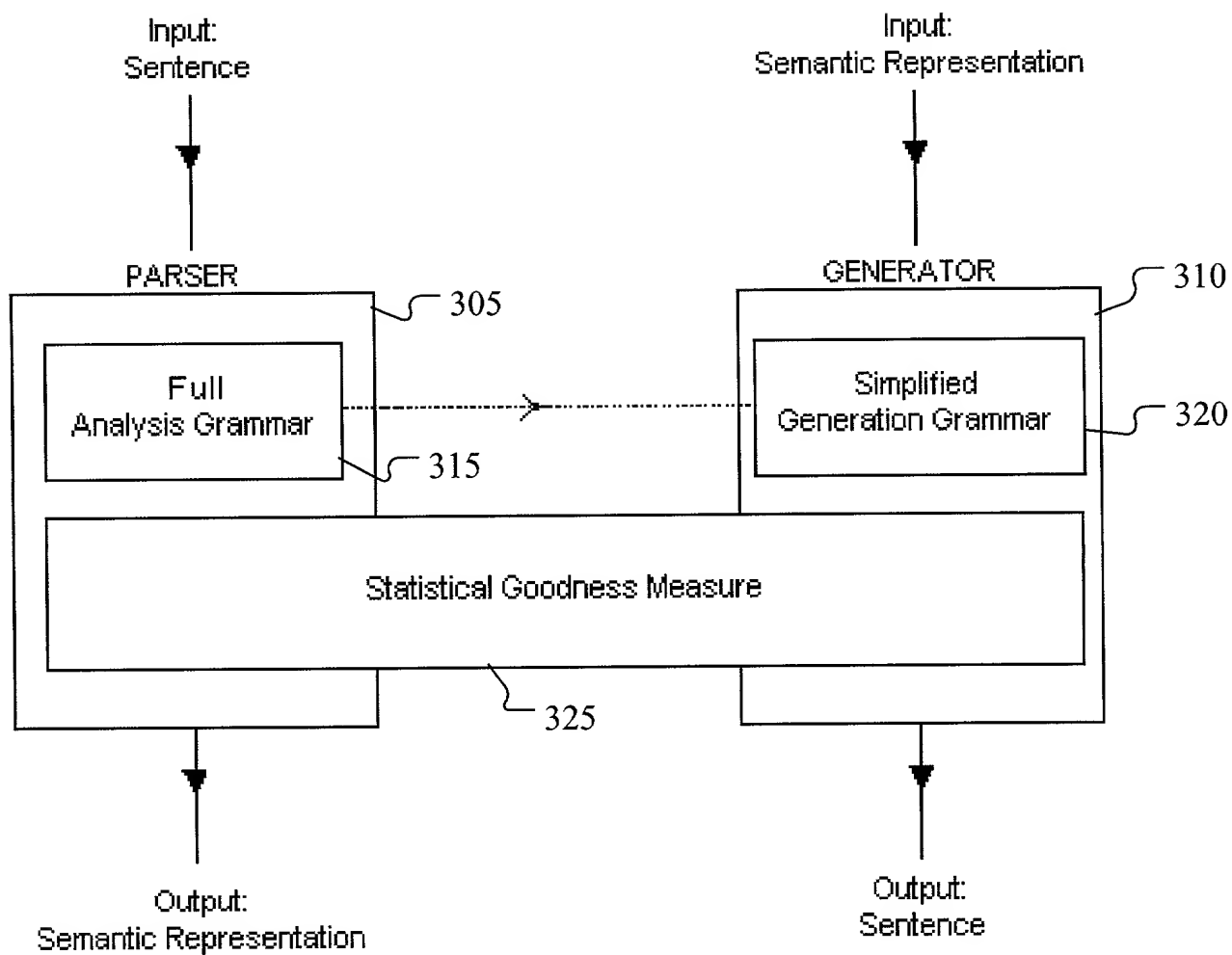


FIG. 3

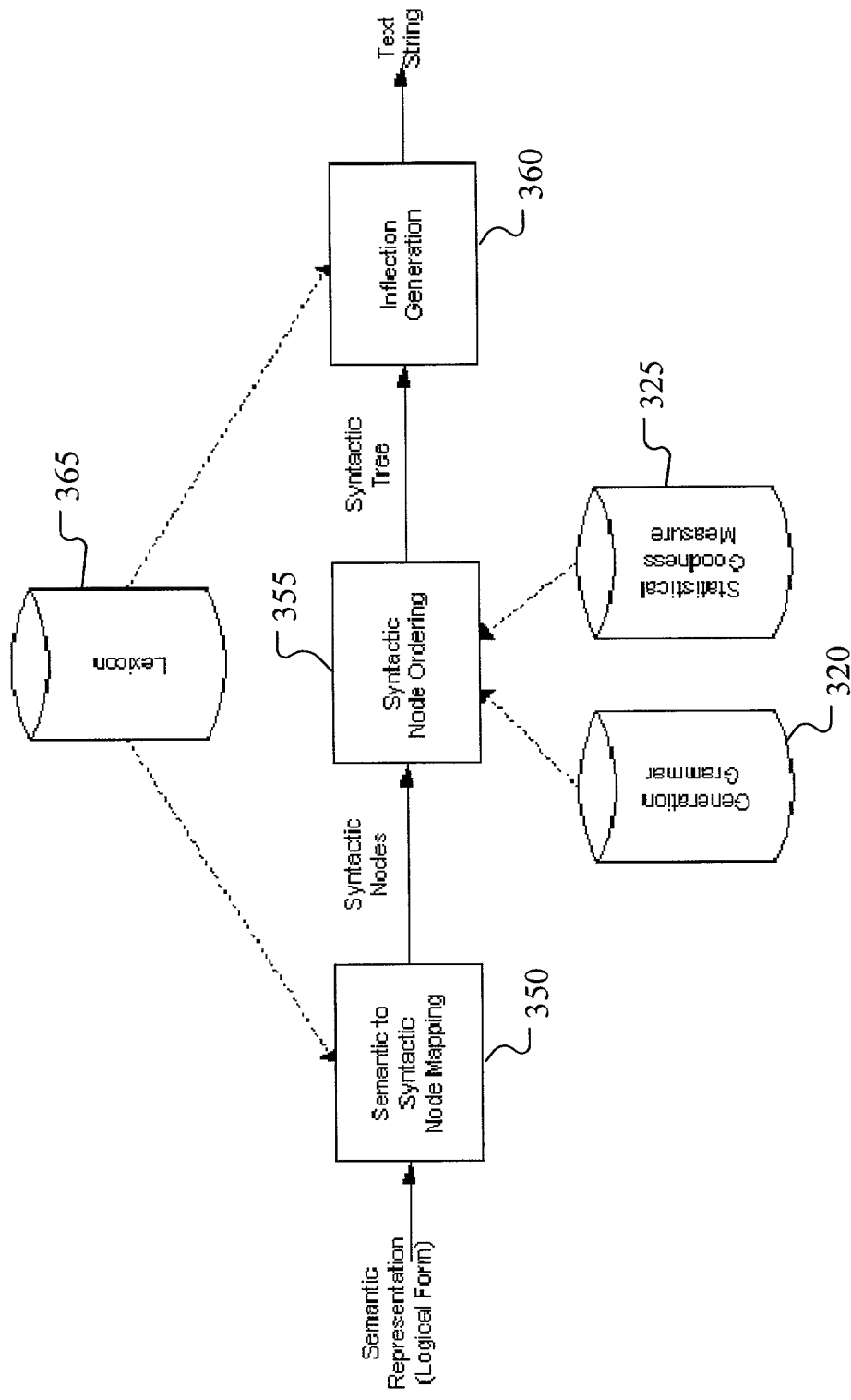


FIG. 4

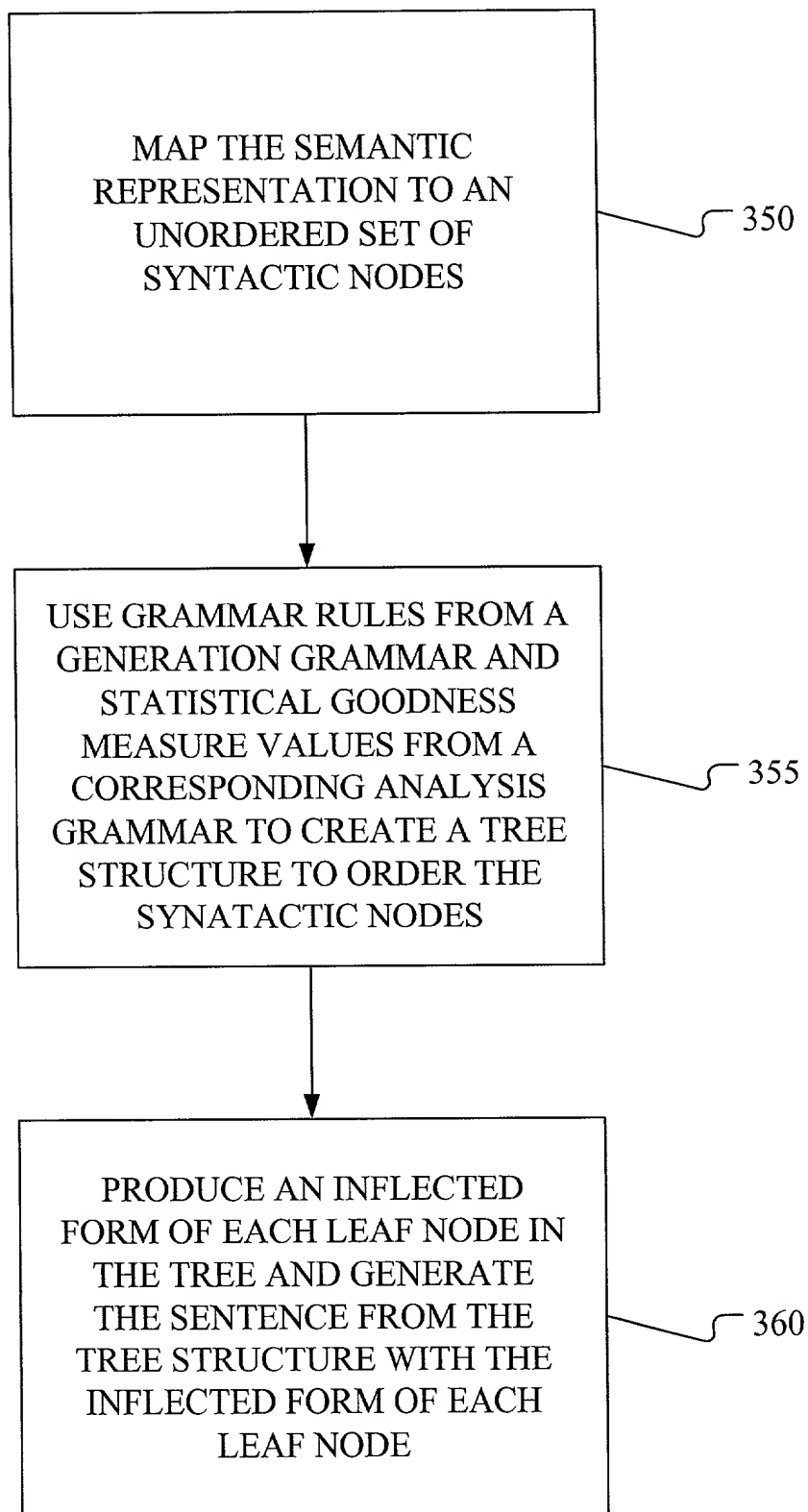


FIG. 5

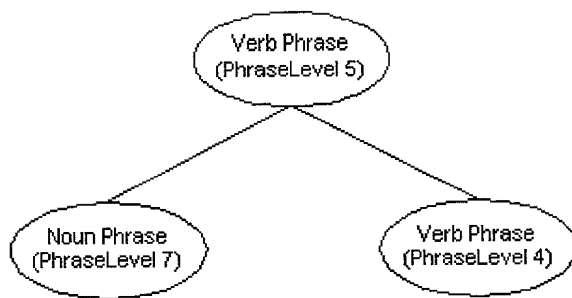


FIG. 6

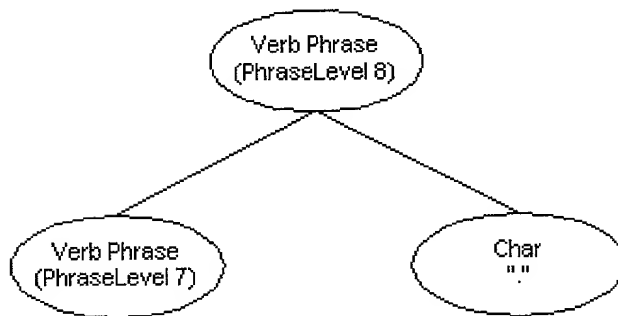


FIG. 8

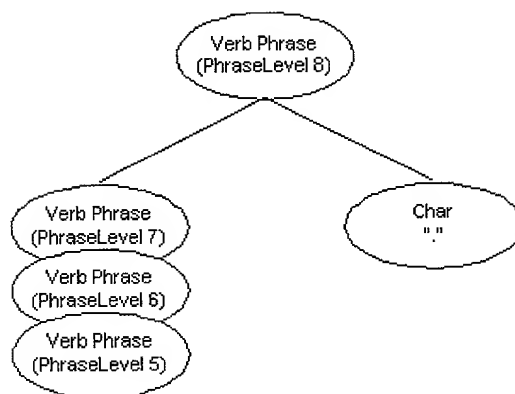


FIG. 9

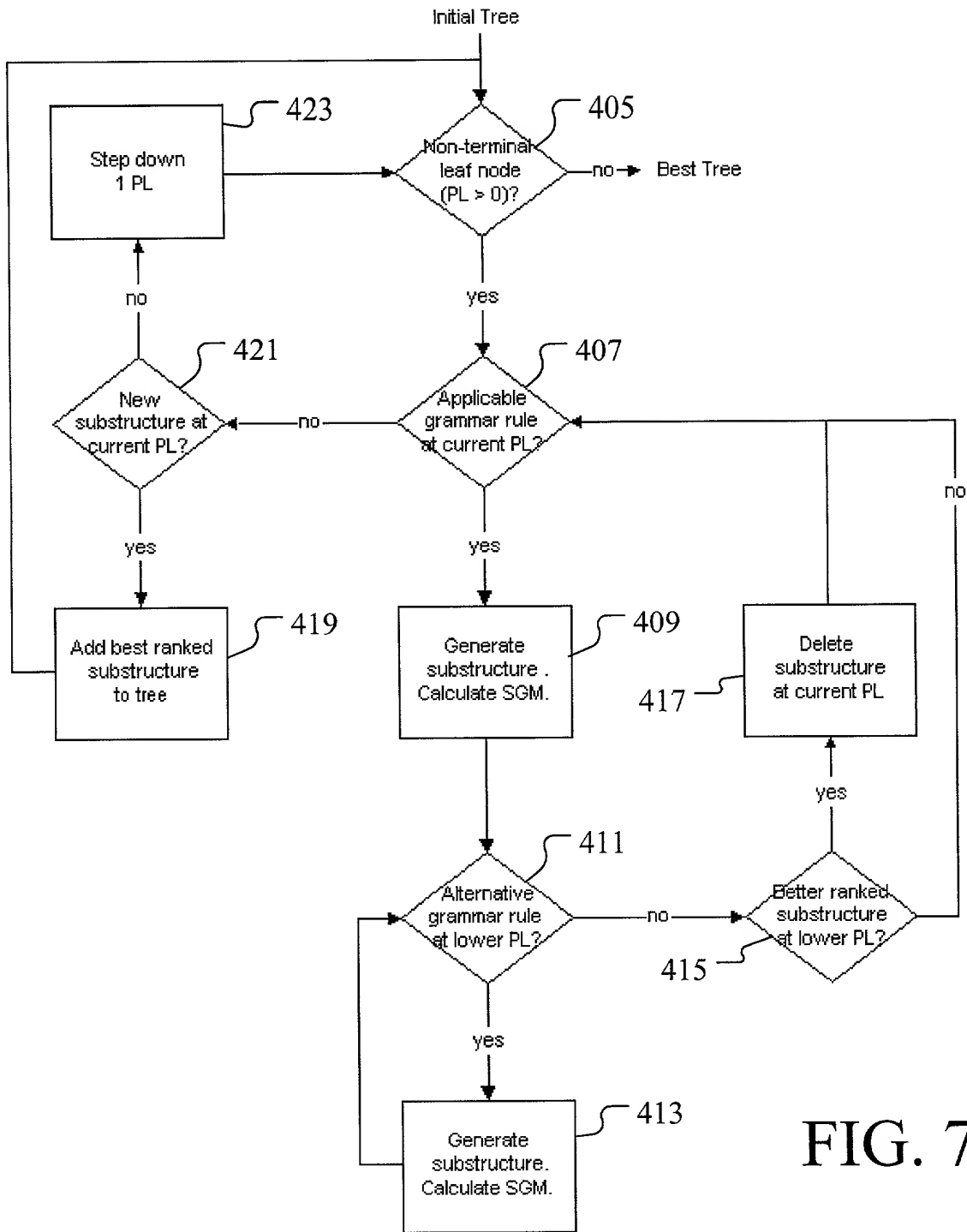


FIG. 7

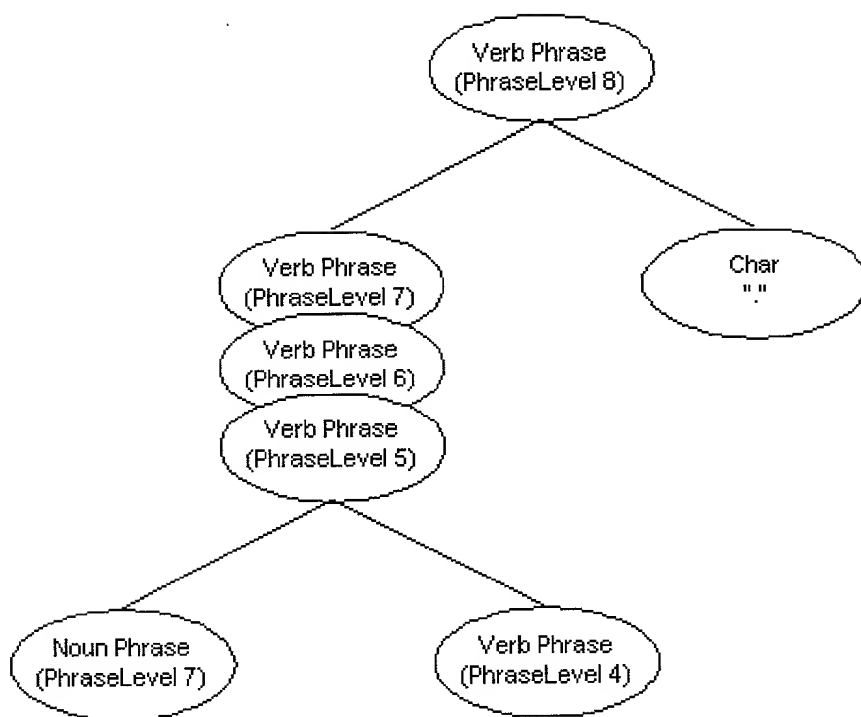


FIG. 10

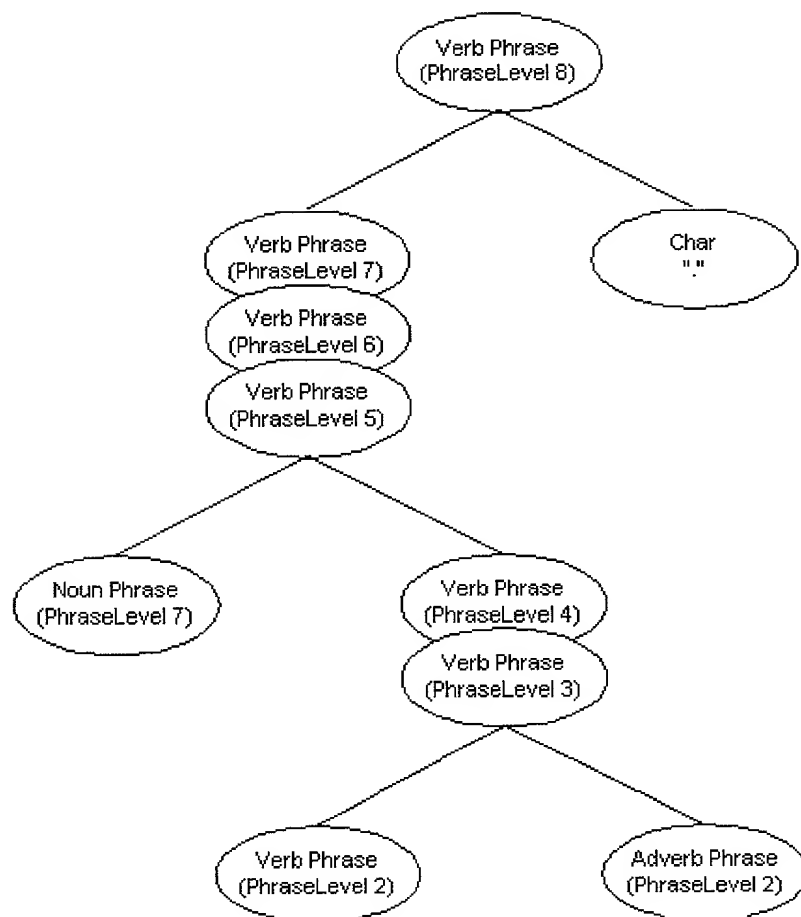


FIG. 11

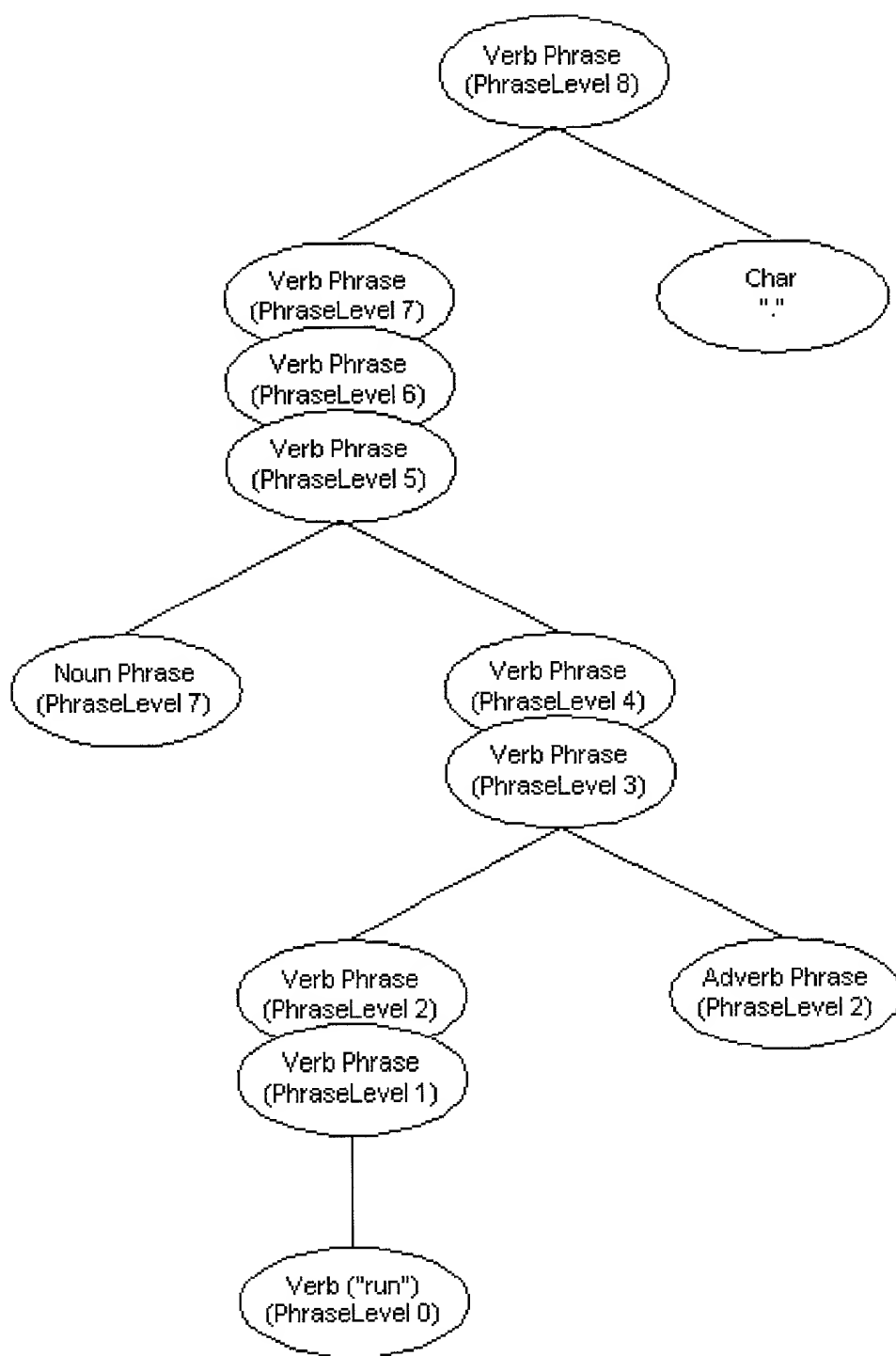


FIG. 12

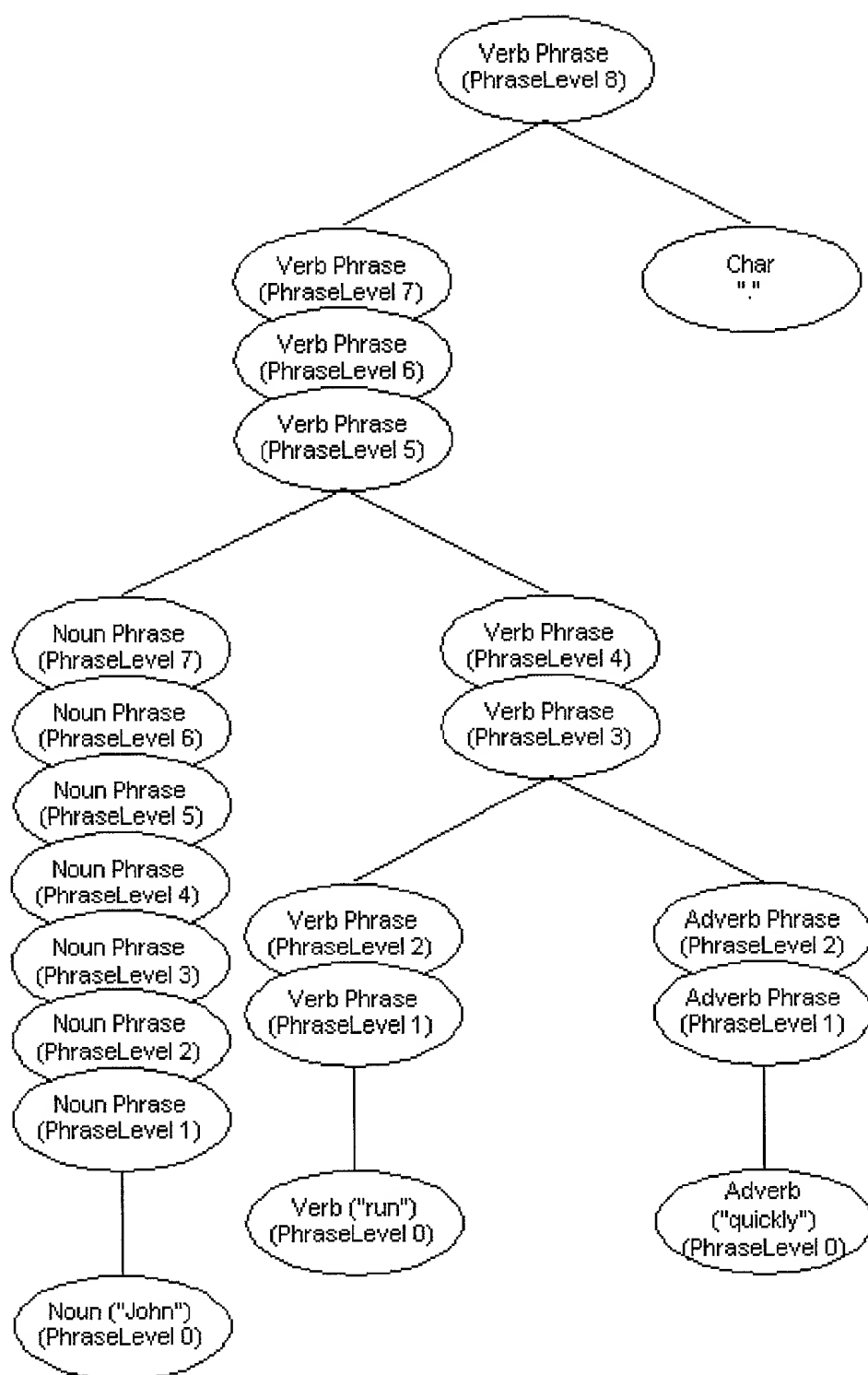


FIG. 13

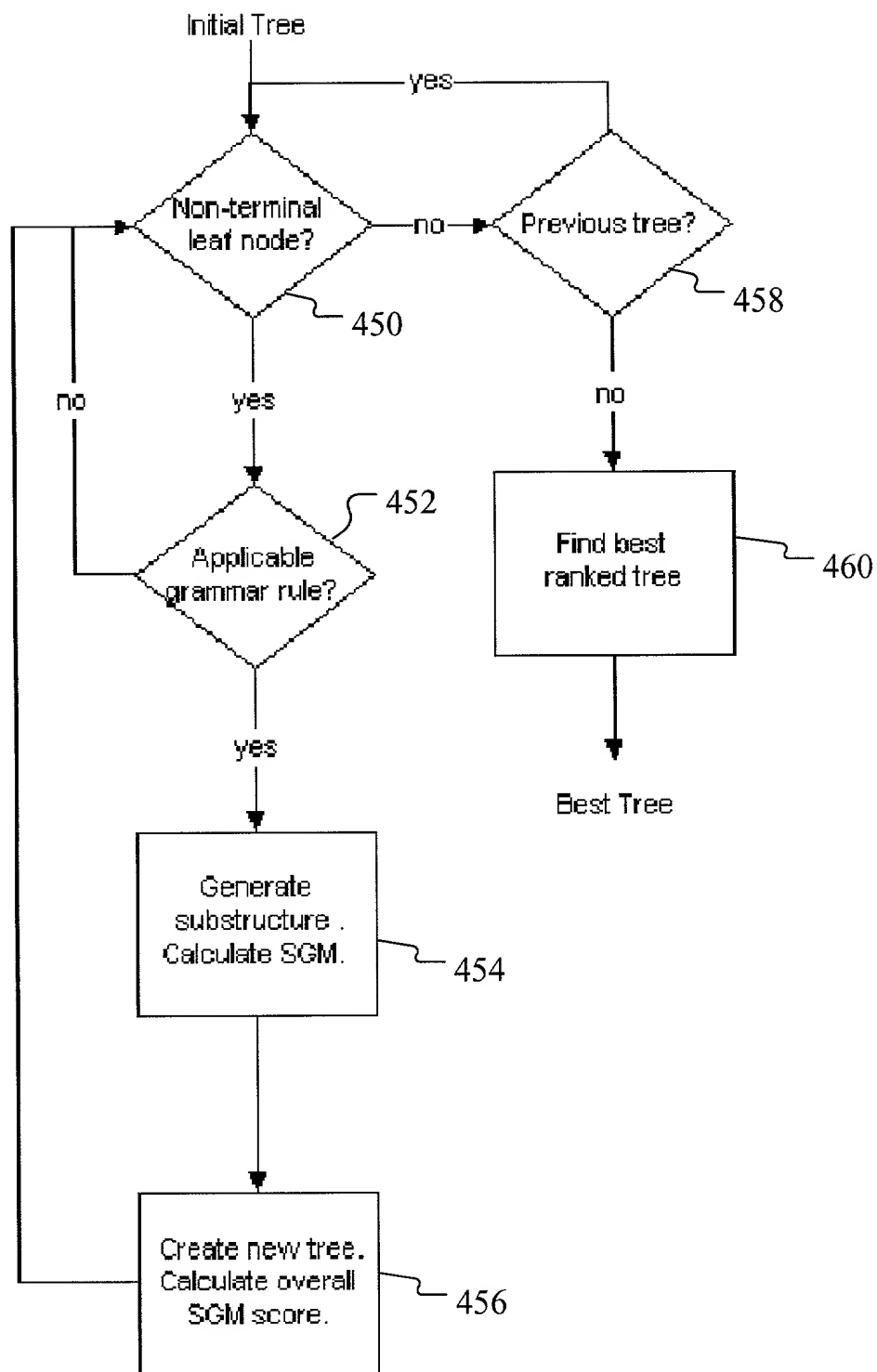


FIG. 14

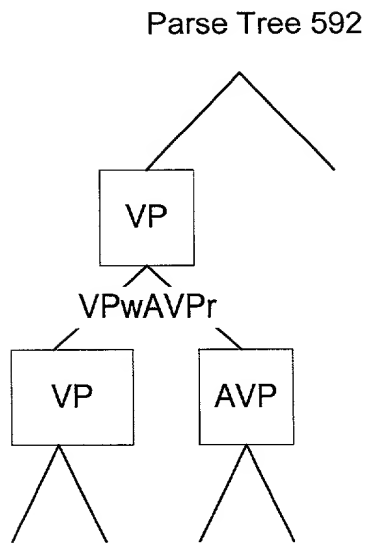
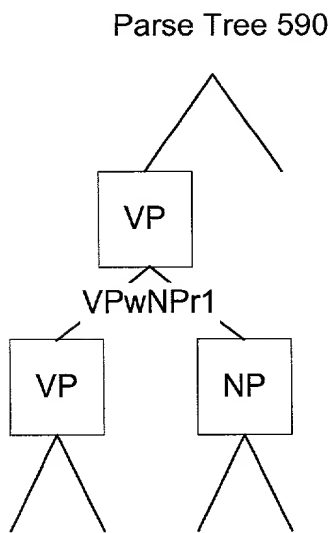


FIG. 15A

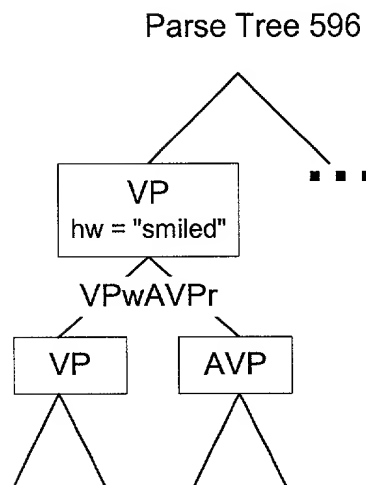
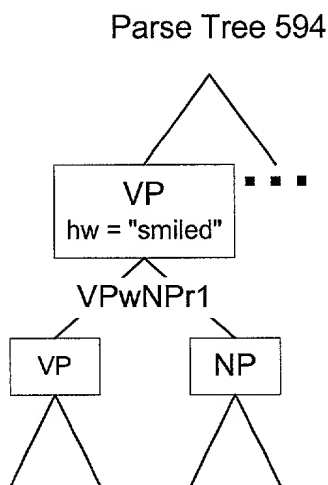


FIG. 15B

Rule Name	Rule	Description (and an example)
VERBtoVP	VP → VERB	Promote a verb into a verb phrase
PredAdj	VP → VP AJP	Add on an adjective. “ <i>It has been <u>found effective</u></i> ”
VPwNP1	VP → VP NP	Add direct object to a VP “ <i>I <u>hit Bill</u></i> ”
Perfect	VP → VP VP	Adds the VP “have” to a VP “ <i>Joe <u>had gone</u></i> ”
SubjPQuant	VP → NP VP	Add quantifiers to the VP like “all”, “both”, ... “ <i>The children have <u>all gone</u></i> ”
VPwNP1	VP → NP VP	Add noun subject to a VP “ <i><u>John</u> jumped.</i> ”
SubjectAJP	VP → AJP VP	Add AJP subject to a VP “ <i><u>More surprising</u> is his attitude</i> ”
InvertAJPwS	VP → AJP VP	Add final modifier, AJP, to the left of a VP “ <i><u>More remarkable still, he went</u></i> ”
Topicalization	VP → NP VP	Add object of VP, NP, to the left of a VP “ <i><u>A better-looking man</u> I have not seen</i> ”

FIG. 16

FIG. 17A

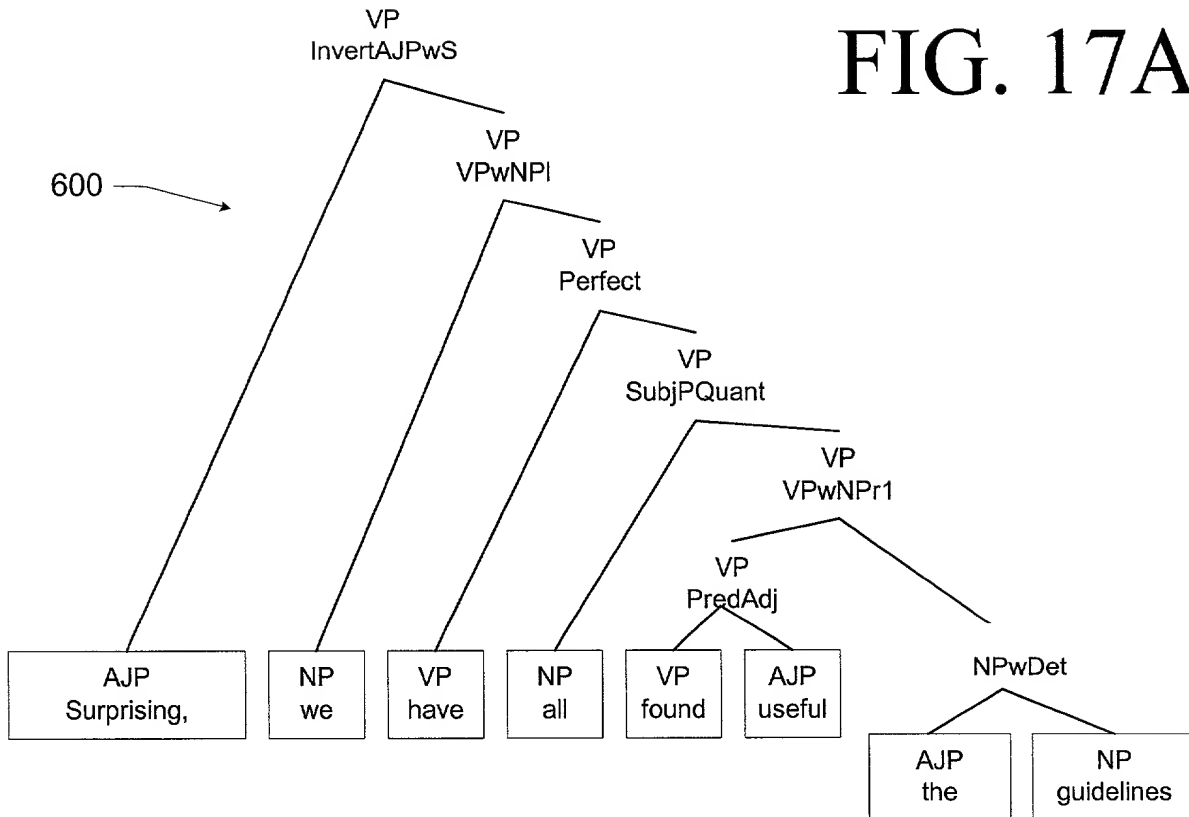
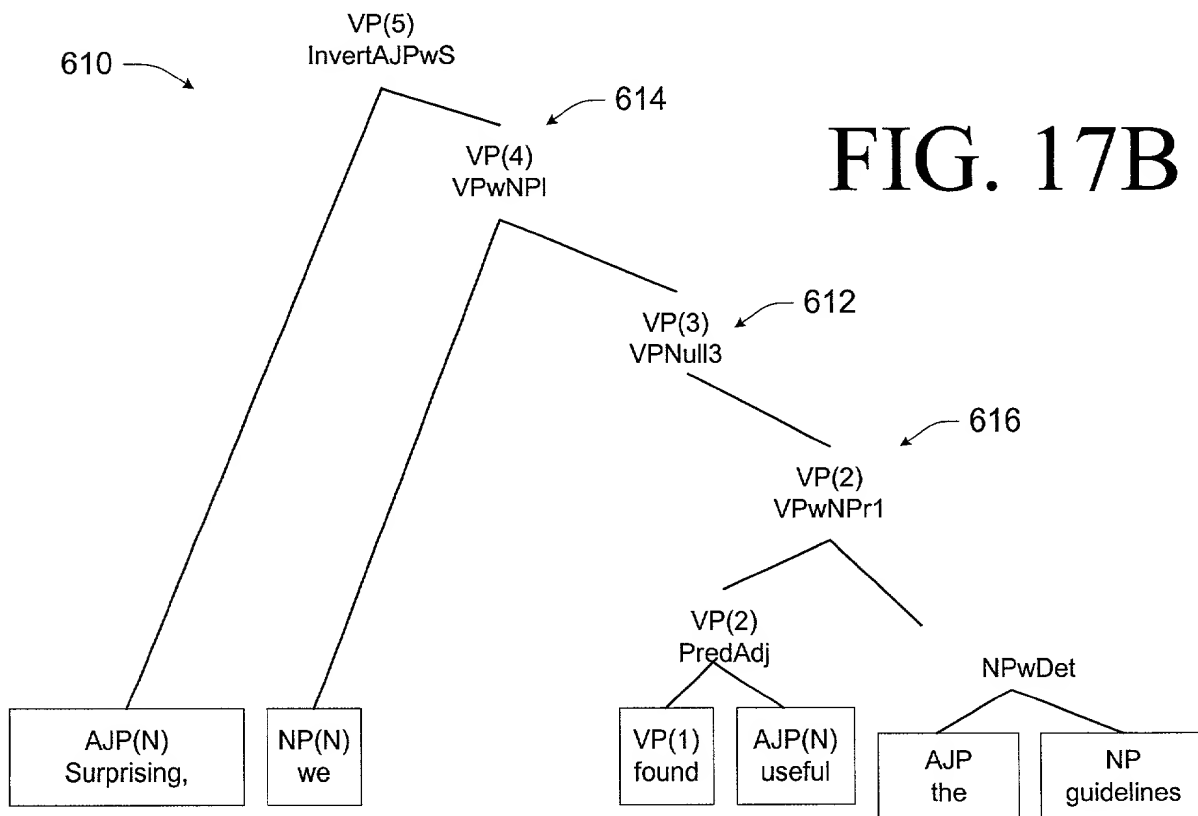


FIG. 17B



Phrase Level	Rule Name	Rule	Level Description
1	VERBtoVP	VP(1) → VERB(PL_Verb_Max)	Create a VP
	PredAdj	VP(2) → VP(1) AJP(PL_AJP_Max)	Add post modifiers
	VPwNPPr1	VP(2) → VP(1) NP(PL_AJP_Max)	
	VPNull2	VP(2) → VP(1)	
3	Perfect	VP(3) → VP(1) VP(2,3)	Add “have” and quantifiers
	SubjPQuant	VP(3) → NP(PL_NP_Max) VP(2,3)	
	VPNull3	VP(3) → VP(2)	
4	VPwNP1	VP(4) → NP(PL_NP_Max) VP(3)	Add subject
	SubjectAJP	VP(4) → AJP(PL_AJP_Max) VP(3)	
	VPNull4	VP(4) → VP(3)	
5	InvertAJPwS	VP(5) → AJP(PL_AJP_Max) VP(4)	Add modifiers to VPs that have a subject
	Topicalization	VP(5) → NP(PL_NP_Max) VP(4)	
	VPNull5	VP(5) → VP(4)	

FIG. 18

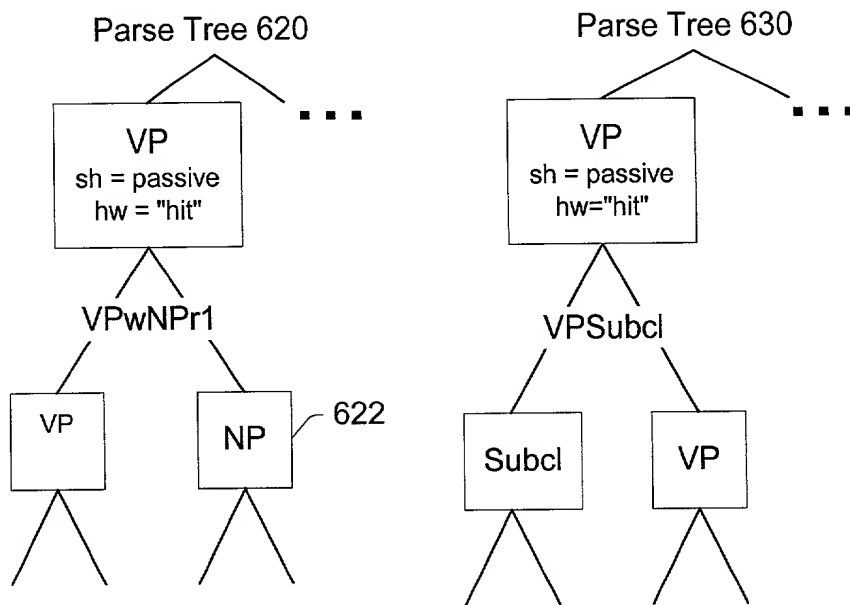


FIG. 19

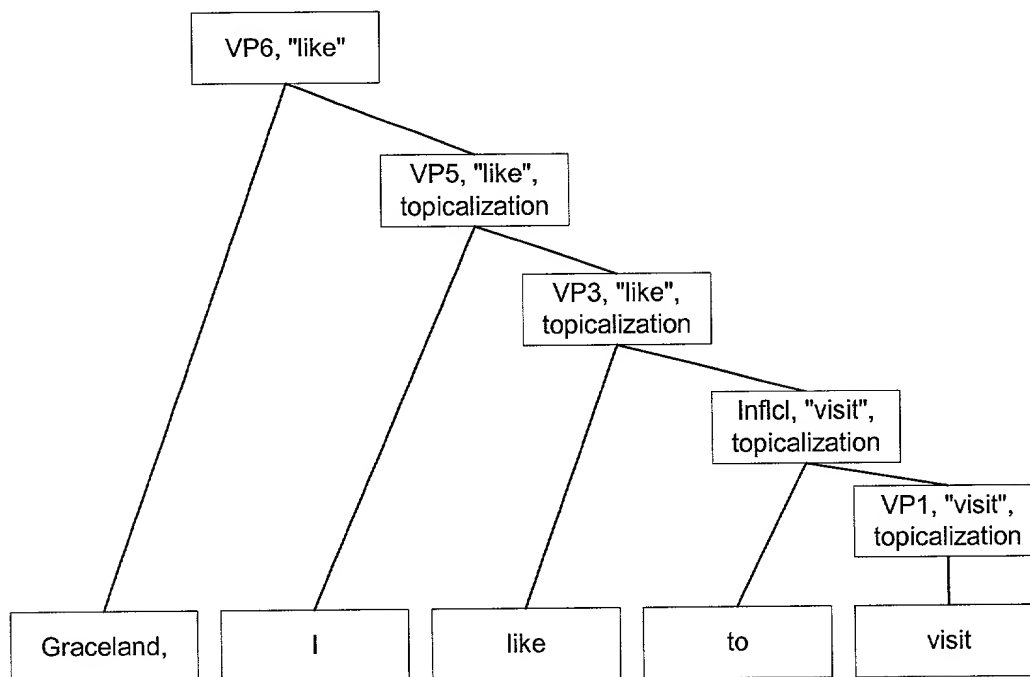


FIG. 20

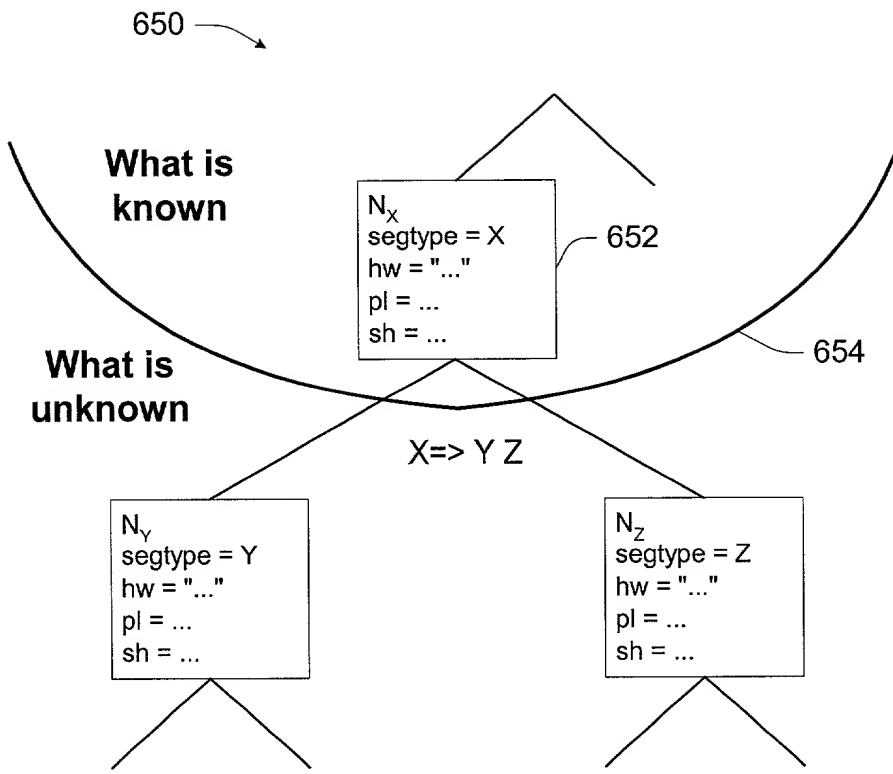


FIG. 21